

MONTHLY WEATHER REVIEW,

OCTOBER, 1878.

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

INTRODUCTION.

In compiling the present REVIEW the following data, received up to November 14th, have been made use of, viz: the regular tri-daily weather charts, containing the data of simultaneous observations taken at 119 Signal Service stations and 11 Canadian stations, as telegraphed to this office; monthly journals and means, 127 and 143 respectively, from the former, and monthly means from 14 of the latter; reports from 20 special Sunset stations; 231 monthly registers from Voluntary Observers; 34 monthly registers from United States Army Post Surgeons; Marine Records; International Simultaneous Observations; monthly reports of the Weather Services of the States of Iowa and Missouri; reliable newspaper extracts; special reports.

BAROMETRIC PRESSURE.

Upon chart No. II is shown by the isobaric lines the general distribution of the atmospheric pressure, reduced to sea-level, for the month. Compared with the means for October of previous years, the pressure for the present month is slightly below the normal in all the districts, except Oregon, where it is about one-tenth of an inch above. The deficiency is greatest in Minnesota and the Upper Lake region.

The Local Barometric Ranges for the month, as reduced to sea-level, have been largest in Oregon, from Indian Territory to Minnesota and Wisconsin, and along the path of low pressure area No. XI. Taken by districts, they vary as follows: New England, 0.89 in. on summit of Mount Washington and 0.90 at Wood's Holl, to 0.98 at Springfield; Middle States, 1.00 at Kittyhawk to 1.64 at Fort Whipple; South Atlantic States, 0.64 at Jacksonville to 1.32 at Cape Lookout; East Gulf States, 0.54 at Mobile to 0.66 at Atlanta; West Gulf States, 0.56 at New Orleans to 0.81 at Corsicana; Ohio valley and Tennessee, 0.62 at Knoxville to 0.90 at Morgantown; Lower Lakes, 0.63 at Cleveland to 1.14 at Oswego; Upper Lakes, 0.87 at Grand Haven to 1.28 at Duluth; Upper Mississippi valley and Minnesota, 0.94 at St. Louis to 1.64 at Breckenridge; Missouri valley, 1.19 at Bismarck to 1.76 at Yankton; Western Plains, Fort Sill, 1.21, Dodge City, 1.88, and North Platte, 1.75; Rocky Mountain stations, 0.56 at Santa Fe to 0.90 at Denver; Nevada and Idaho, 0.76 at Pioche to 1.03 at Boise; California, 0.22 at San Diego to 0.70 at Red Bluff; Oregon, 1.39 at Roseburg.

Areas of High Barometer.—Eight of these have been well-marked areas and a short description of each is given below. Two of them, Nos. IV and VII, were specially interesting from the fact of their influence on the progress of the yellow fever in the Southern States; their paths are given in red on chart No. II.

No. I—appeared on the Pacific coast on the 1st, the highest pressure passing eastward over Oregon and Washington Territory on the 2nd, on these days frosts were reported at Yreka, Cal., and Winnemucca, Nev. It was preceded during the early morning of the 1st by a very heavy southwest gale and heavy rains in the Straits of Juan de Fuca; 3rd and 4th, it extended to the Northwest, attended by clear, cool weather, but preceded, during latter part of 4th, by northerly winds, threatening and rainy weather in Nebraska and Kansas. 5th, it moved into the Ohio valley, preceded by northerly winds, cloud and rain from Tennessee to the Lower Lakes, and with frosts in Michigan on morning of the 6th. 7th and 8th, it was over the Atlantic States.

No. II—appeared in the Northwest on the 9th, and followed low area No. IV across the Lake region to the Gulf of St. Lawrence, where it was central on the 11th. Frosts occurred in northern Michigan on the morning of the 10th.

No. III—appeared on the 11th, when it extended from Nevada and Arizona, where frost occurred, to the Lower Missouri valley, and afterwards moved in a more southerly track than the preceding areas; it produced lower temperatures over the Gulf States than either of the preceding, but did not produce any very beneficial effects in the "yellow fever districts." 12th, it was central over the Ohio valley, and frosts were reported